

**REMARKS**

Claims 1-6 and 10-16 are currently pending in the application. Claims 8-9 have been withdrawn pursuant to a restriction requirement as directed to a non-elected invention.

Claim 1 is currently amended by adding “and connected by a computer network installed in the retail store to a computer with installed back office application software for at least one of accounting and inventory” at lines 3-5. Support for this amendment may be found in the Specification at page 4, lines 16-21, and at page 6, line 25 through page 7, line 7.

Claims 10-16 are new. Support for Claim 10 may be found in the Specification at page 4, lines 16-17. Support for Claim 11 may be found in Figure 1, element 12, and in the Specification at page 4, lines 20-22, and at page 6, line 25 through page 7, line 7. Support for Claims 12-14 may be found in the Specification at page 4, lines 20-22, and at page 6, line 25 through page 7, line 7. Support for Claim 15 may be found in the Specification at page 7, lines 6-7, and in Figure 2A, element 23. Support for Claim 16 may be found in the Specification at page 7, lines 1-7.

**The Claimed Invention**

The claimed invention allows store personnel to perform most checkout and automated payment transactions at any location in the store. One or more projectors, cameras and activation devices, are connected to the store network through wires or by wireless. The sales person would signify that a customer is ready to check out by using a small device, like a clicker or push button carried on their person. A projector and a camera, networked to the existing store Point-of-Sale (POS) system, locates the sales person and then, using certain algorithms, locates a blank space (on a wall or a table, for example) and displays the standard Point- of-Sale (POS) application. The camera monitors movements and allows the sales person to use the application interactively in the same manner as if he or she were at the actual check out counter using a computer

terminal.

To this end, the claimed invention provides a virtual point-of-sale (POS) system for a retail store. The virtual POS system includes:

- (a) a remote activator device carried by a sales associate and connected by a computer network installed in the retail store to a computer with installed back office application software for at least one of accounting and inventory;
- (b) a positioning system that recognizes a signal from the remote activator device and determines where and how to find an appropriate blank surface near the sales associate's actual location;
- (c) an integrated projector and camera assembly, responsive to the positioning system, which rotates to a correct position and displays a POS application on a blank surface near the location of the sales associate, with the camera detecting entries in the POS application by the sales associate as interactions with the displayed POS application;
- (d) a scanner used by the sales associate for scanning merchandise codes to enter purchases in the displayed POS application; and
- (e) a magnetic stripe reader for reading a credit or debit card to complete transaction in the displayed POS application.

(Claim 1)

The computer may be a server (Claim 10). In addition, the computer may be connected to a credit card processor (Claim 11), and computer connection to the credit card processor may or may not be made using a dial-up network (Claim 12) or a VPN (Claim 13).

The remote activator device, scanner and magnetic stripe reader for the claimed invention may be part of an integrated device carried by the sales associate (Claim 2), and the integrated device may include a printer for printing a sales receipt. (Claim 3) The integrated device may include a keypad. (Claim 15), and the keypad may be used for

entering a PIN number (Claim 16).

The signal from the remote activator may be a wireless signal conforming to a standardized protocol. (Claim 4) In addition, the positioning system may use a positioning algorithm to determine where and how to find a blank surface near the sales associate's actual location. (Claim 5) Furthermore, the remote activator device may transmit location information to the positioning system for use in determining where and how to find a blank surface near the sales associate's actual location. (Claim 6)

**Rejection of Claims 1-7 Under 35 U.S.C. § 103(a)**

Claims 1-7 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,243,447 to Swartz et al. in view of U.S. Patent No. 6,614,422 to Rafii et al. Applicant traverses on the basis that combining the cellular telephone-based self-service checkout system taught by Swartz et al. with the virtual keyboard taught by Rafii et al. does not result in the claimed invention, as discussed below.

The activator of the claimed invention is connected to the store computer through the in-store computer. (Claim 1, lines 2-3; Figure 1, elements 10 and 13) By contrast, the portable communications terminal taught by Swartz et al. is connected to the store computer through a cellular telephone network. (Swartz et al., column 7, lines 53-58; Figure 3, elements 72 and 79) In addition, Rafii et al. do not teach a device that “determines where and how to find an appropriate blank surface near the sales associate's actual location” (Claim 1, lines 7-8) or a device that “rotates to a correct position and displays a POS application on a blank surface near the location of the sales associate.” (Claim 1, lines 10-11)

The Examiner's reliance on Swartz et al. is erroneous, because Swartz requires a self-service checkout system employing “a telephone module subsystem” (Swartz et al., column 13, line 42) or “a wireless telephone set” (Swartz et al., column 14, line 24). Swartz et al. further teach use of “the cellular communications channel” and/or “cellular telephone network” (Swartz et al., column 6, lines 5-9, 20) and, therefore, do not

anticipate or make obvious the “remote activator device carried by a sales associate and connected by a computer network installed in the retail store to a computer with installed back office application software for at least one of accounting and inventory” (Claim 1, lines 3-5) as required by Claim 1. Swartz et al. expressly teach that a connection between a user terminal and a store computer is to be made by a “cellular access point” (Swartz et al., column 7, line 55; *see also* Figure 3, elements 72 and 79) and not by the in-store computer network, as in Claim 1, lines 2-3. (The “portable communications terminal” of Swartz et al., column 7, lines 41-42, is owned by the consumer and not by the store.)

The Examiner acknowledges that Swartz et al. do not disclose either “a positioning system which recognizes a signal from the remote activator device and determines where and how to find an appropriate blank surface near the sales associate's actual location” (Claim 1, lines 6-8; *cf.* Office Action at 2) or “an integrated projector and camera assembly responsive to the positioning system and which rotates to a correct position and displays a POS application on a blank surface near the location of the sales associate, the camera detecting entries in the POS application by the sales associate as interactions with the displayed POS application.” (Claim 1, lines 9-12; *c.f.* Office Action at 3) Recognizing the deficiencies of Swartz et al., the Examiner relies on Rafii et al. to provide what it missing.

However, the office action is incorrect in finding that Rafii et al. teach the positioning system and integrated projector camera assembly of Claim 1. The Examiner erroneously found portions of Rafii et al. (the Abstract; column 2, line 44; column 4, lines 60-61; and column 8, line 66) to anticipate “a positioning system which recognizes a signal from the remote activator device and determines where and how to find an appropriate blank surface near the sales associate’s actual location.” (Claim 1, lines 6-8) However, Rafii et al. do not teach a device that “determines where and how to find an appropriate blank surface near the sales associate’s actual location” but instead teach enabling a virtual keyboard to function without regard to the appropriateness or blankness of the surface on which the keyboard is being projected.

In addition, the Examiner erroneously found portions of Rafii et al. (column 2, lines 32-64; column 4, line 27; and column 10, line 41) to anticipate “an integrated projector and camera assembly responsive to the positioning system and which rotates to a correct position and displays a POS application on a blank surface near the location of the sales associate, the camera detecting entries in the POS application by the sales associate as interactions with the displayed POS application.” (Claim 1, lines 9-12) However, Rafii et al. do not teach a device that “rotates to a correct position and displays a POS application on a blank surface near the location of the sales associate” but instead teach tracking the position of a user’s fingers in relation to the virtual keyboard of Rafii et al.

Thus, Rafii et al. do not teach either “a positioning system which recognizes a signal from the remote activator device and determines where and how to find an appropriate blank surface near the sales associate's actual location” (Claim 1, lines 6-8) or “an integrated projector and camera assembly responsive to the positioning system and which rotates to a correct position and displays a POS application on a blank surface near the location of the sales associate, the camera detecting entries in the POS application by the sales associate as interactions with the displayed POS application.” (Claim 1, lines 9-12) Claim 1 should therefore be allowed.

Claims 2-7 should be allowed as dependent from allowable Claim 1.

In addition, Swartz et al. do not teach the “integrated device” of Claims 2-3, because Swartz et al. claim and teach a telephone device, while the devices claimed by Claims 2-3 are based on the “remote activator device carried by a sales associate and connected by a computer network installed in the retail store to a computer” of Claim 1, lines 2-3, which is discussed above.

With regard to Claim 4, Swartz et al. do not teach “conforming to a standardized protocol” (Claim 4, lines 2-3), because Swartz et al. teach use of a telephone network (Swartz et al., Figure 3, element 79), which necessarily entails the use of proprietary protocols.

With regard to Claim 5, because Rafii et al. do not teach the positioning system of Claim 1, from which Claim 5 depends, Rafii et al. cannot be found to teach the limitation that the unanticipated positioning system “uses a positioning algorithm to determine where and how to find a blank surface near the sales associate’s actual location.” (Claim 5, lines 2-3)

Furthermore, with regard to Claim 6, because Rafii et al. do not teach the positioning system of Claim 1, as discussed above, Rafii et al. cannot anticipate “transmits location information to the positioning system” (Claim 6, lines 2-3) as required by Claim 6.

### **Conclusion**

In view of the foregoing, Applicant submits that Claims 1-7 and 10-16 are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue. The Examiner is invited to contact the undersigned at the telephone number listed below, if needed.

Applicant hereby makes a written conditional petition for extension of time, if required. Please charge any deficiencies in fees and credit any overpayment of fees to Applicants’ Deposit Account No. 50-0510 (IBM Corporation).

Respectfully submitted,



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